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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,500	02/24/2000	Yasumasa Kuroba	2803.63637	5652

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EXAMINER

PATEL, GAUTAM

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 04/23/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/512,500

Applicant(s)

KUROBA ET AL.

Examiner

Gautam R. Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) 3-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 8 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment:

1. This is in response to amendment filed on 3-8-04 (Paper # 14).
2. Claims 1-2 and 8 remain for examination.

Election/Restriction

3. Claims 3-6 **remains withdrawn** from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a non-elected species there being no allowable generic or linking claim. Election was made with traverse in Paper No. 4. Election was made final in paper no. 5.

Applicant is reminded that **upon the cancellation of claims to a non-elected invention, the inventorship must be amended** in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

The Applicants are urged to cancel non-elected claims 3-6.

Claim Rejections - 35 U.S.C. § 103

4. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of

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each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ohmi, US. patent 5,936,787 (hereafter Ohmi).

As to claim 1, Ohmi discloses the invention as claimed [see Figs. 3-6] including detecting vibration detecting phase determining write start and moving head comprising the steps of:

detecting continuous vibration of the medium, said continuous vibration being asynchronous with the rotational frequency of said spindle motor;

detecting the phase of the detected asynchronous continuous vibration [col. 3, lines 19-58];

determining the write start sector or the write end sector or the write start time or the write end time of each servo track based on said detected phase of the asynchronous continuous vibration [col. 9, lines 3-25 and col. 9, line 66 to col. 10, line 27]; and

moving said head by said head moving mechanism on said recording surface where said head positioning information is to be written and writing said information based on said write start sector or said write end sector [col. 2, line 66 to col. 3, line 9 and col. 9, lines 3-25];

Ohmi discloses all of the above elements, including detecting vibration detecting phase determining write start and moving head. Ohmi does not specifically disclose in his present embodiment that only phase [frequency] can be used to determine start or end sector time to the extent claimed.

However, use of phase of the fluctuations to control the sector position is well known in the art for a while [e.g. see JPO patent abstract, Pub. No. 01048276]. Also Ohmi himself clearly discloses that his system can be modified such that only a particular specified frequency component [i.e. phase] alone can be extracted can be used in place of phase and amplitude by his phase adjustment unit 25 [col. 10, lines 1-11].

One of ordinary skill in the art at the time of invention would have realized that all system designs are done with cost and thus component count in mind and any reduction in component count that can be done is a good system change to help so as to save money of component and reduce complexity of the design.

Therefore, it would have been obvious to have used concept of signal generated from phase only in the system of Ohmi as taught by Ohmi because one would be motivated to reduce cost of the system and increase reliability of the system by reducing the component count when those component are not needed.

NOTE: Ohmi discloses that error signals from rotational and axial direction are combined to produce a single adjustment signal. In other words write start sector place and time are inherently defined and writing starts accordingly.

6. As to new claim 8, Ohmi discloses:

said continuous asynchronous vibration is detected with a displacement gauge [fig. 1, units 14 & 18] [col. 3, lines 10-18]

NOTE: Circuit 14 function as a "displacement gauge" as it detects the counter electromotive force.

Ohmi was cited as prior art reference in paper no. 5, mailed 3-20-03.

Allowable Subject Matter

7. Claim 2 is objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

NOTE: Claim 2 is allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose a method of writing a servo track for disk file apparatus wherein "the step of determining the start sector or write end sector includes the sub-step of setting a servo track write position is behind the phase of

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the peak amplitude of the vibration in case where $f_c < f_r$ [as defined by equation $[(1-f_c/f_r) \times 180]$ degree]. And write start position ahead of the phase of the peak amplitude of vibration, when $f_c > f_r$. It is noted that the closest prior art, Ohmi. (US 5,936,787) shows a similar apparatus which reads the vibration phase and frequency and adjust the head and also picks the write spot based on both phase and amplitude or simply based on phase only. However Ohmi fails to disclose details of the write pulse and when to place write pulse ahead or behind on what criteria as claimed by the Applicants.

8. Applicant's arguments with respect to claims 1 and 8 have been considered but are moot in view of the new grounds of rejection.

9. Applicant's amendment necessitated the new grounds of rejection presented in this office action. Accordingly, THIS ACTION IS MADE FINAL. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

A handwritten signature in black ink, reading "Gautam R. Patel". The signature is written in a cursive style with a horizontal line extending from the end of the name.

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

April 22, 2004